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Developing and facilitating a creative teaching culture using an Electronic Voting System

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Background

At the beginning of the 2008/2009 academic year and led by the e-Learning team, the University of Bath embarked on a pilot of an Electronic Voting System (EVS).

With the intention of improving the assessment and feedback loop, the EVS has been embraced by a number of lecturers to support their face-to-face teaching. During the pilot year, there has been evidence of a sustained change in the way that some individuals teach when they use the technology.



How can EVS be used to support learning?

Davenport, Hayes and Parmar (2009) identified five key areas:

- For diagnostic testing at the beginning of a lecture
- For monitoring understanding of the content by students
- For enabling the provision of immediate feedback
- For keeping students actively engaged in their learning
- For promoting peer interaction and support

The full paper exploring these ideas can be found at <http://opus.bath.ac.uk/12505>

Case Studies

A survey of Computer Science students who used the EVS during a problems class indicated a positive impact. When surveyed, 66% of a group of 45 students said that the use of the EVS "revolutionises (their) problem classes". When asked to explain this view, one student replied that, "When getting questions wrong it meant that I'll now remember the correct answers because of the way it is presented". Another commented that "(it) gives you feedback (on) your knowledge and how you are doing in terms of the rest of the class." [full article, <http://go.bath.ac.uk/p5cb>]

INCREASING STUDENT ENGAGEMENT

A lecturer in the Department of Mechanical Engineering, who used the EVS for a mid-unit formative assessment said, "[A particular] type of question was very useful as it drew upon a lot of different aspects of the course. Students needed to identify the differences between piston (propeller) powered aircraft, and jet powered aircraft with respect to their range capabilities". Teaching staff can really begin to engage students in their learning at a deeper level, through using formative assessment approaches such as these. [full article, <http://go.bath.ac.uk/nyc8>]

PROMOTING DEEPER LEARNING

In a Social and Policy Sciences unit, students worked in small groups to create effective survey questions, which were linked to a broader research question. The EVS was used to collect sample data from the cohort, which led to an activity where all students discussed the structure of particular questions and, where appropriate, made suggestions for reducing ambiguity or bias. As well as giving immediate feedback about question design, the lecturer facilitated a discussion identifying questions that were most effective. [full article, <http://go.bath.ac.uk/wkch>]

STUDENT-CENTRED LEARNING

In the Department of Mathematical Sciences, the EVS was used in a problems class to establish common errors that the lecturer had observed in handed-in solutions to exercise sheets. As a non-compulsory activity, hand in rates are often low. As such, many students only actively work during the revision period. Students were asked to work with peers, before taking part in a whole group EVS-based formative assessment. Using the EVS, all students have to work with their peers, before arriving at the solution. [full article, <http://go.bath.ac.uk/2fr9>]

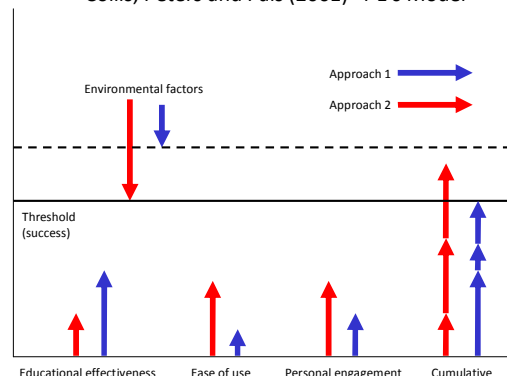
ENCOURAGING PARTICIPATION

Developing the teaching culture

The challenge for the e-Learning team has been to establish support structures which encourage staff to develop their teaching practice, allowing them to gain the benefits of such learning technologies. The e-Learning team has redesigned their own staff support model. The justification for this is evident when applying the Collis, Peters and Pals (2001) 4-E's Model. This model implies that for a technology to be implemented in a sustainable manner, the combined factors (Educational effectiveness, Ease of use and Personal engagement) need to be larger than the threshold point, which are determined by Environmental factors. To ensure that this happens, we have re-visited our e-Learning staff development model.

There has been a gradual shift from **Approach 1**, where the emphasis on central workshops, case studies and a single specialist in the team. Instead, the team has moved to **Approach 2**, where the focus has been on rapid news transfer (via Twitter, SMS), development of team knowledge, profiling at institutional level, inter-team implementation, working alongside lecturers to write journal articles and conference papers, and an emphasis on evaluation. The 4-E's Model would predict that **Approach 2** signifies that a lecturer is more likely to make use of technological innovations for a learning and teaching related purpose.

Collis, Peters and Pals (2001) 4-E's Model



longer term impact

How have outcomes been disseminated?

A blog-style website has become a central resource over the course of the pilot for:

- Dissemination of good practice in the form of practitioner experiences
 - Reflections on meetings with internal and external colleagues
 - Support material, provided in the form of written and video user guides
 - Links to relevant external websites via an RSS feed from delicious
- The EVS is also used within the e-Learning Staff Development programme to promote personalisation within seminars and workshops.

STEP 1

Where next for you?

Now, it is across to you! We are very interested in hearing your stories of strategies that your institution has put in place to promote a cultural change in teaching practice. In your opinion, what works? What does not work? Are there any examples to evidence these thoughts? To continue this discussion, please visit <http://go.bath.ac.uk/ir0l>



URL

STEP 2



Contact details

Nitin would be delighted to hear from colleagues who have any questions about the Electronic Voting System project at the University of Bath, and how the technology might be used to support learning and teaching within your context. Please contact him on 01225 384 392 or at N.R.Parmar@bath.ac.uk



URL

Find out more about the Electronic Voting System project, <http://go.bath.ac.uk/evs> • Download this poster, <http://opus.bath.ac.uk/14252>